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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|---------------------------|---------------------|------------------|
| 10/644,184 | 08/20/2003 | Donald Charles Soltis JR. | 10991204-2 | 5695 |

7590 04/17/2007
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P. O. Box 272400
Fort Collins, CO 80527-2400

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| EXAMINER |
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BUTLER, DENNIS

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| ART UNIT | PAPER NUMBER |
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2115

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 04/17/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/644,184

Applicant(s)

SOLTIS ET AL.

Examiner

Dennis M. Butler

Art Unit

2115

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4, 6-9 and 11 is/are allowed.
- 6) ☒ Claim(s) 5 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This action is in response to the amendment received on February 2, 2007. Claims 1-11 are pending. This application is a divisional of application 09/457,169, now U.S. Patent 6,651,176. Claims 1-4 correspond to non-elected claims 20-23 in the restriction of the parent application. Claims 5-11 of the present application were not present in the parent application and were not involved in the restriction of the claims of the parent application.
2. The text of those sections of Title 35, US Code not included in this action can be found in a prior Office Action.
3. The terminal disclaimer received on February 2, 2007 has been approved and recorded in applicant's file. Therefore, the nonstatutory obviousness-type double patenting rejection of claims 5-11 has been withdrawn.
4. Claims 5 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kling et al., U. S. Patent 6,367,023.

Per claim 5:

A) Kling et al teach the following claimed items:

1. a power dissipation controller (power controller 150) for stalling instructions to control average power dissipation of the pipelined processor (figure 3) with figures 1, 3 and 6, at column 3, lines 20-28 and 50-59, at column 6, lines 10-20 and at column 8, lines 25-49;
2. logic for comparing a threshold to current capacity (current power consumption measurement) representative of a thermal response of the pipelined processor and implementing a low power state within the register

pipeline of the processor when capacity exceeds the threshold with figure 6, at column 1, lines 23-26, at column 2, lines 55-62 and at column 8, lines 25-49.

Kling describes that the power consumption of a processor is limited by the thermal dissipation of the processor. As power consumption increases, the processor runs hotter and if precautions are not taken, the processor may destroy itself by its own heat at column 1, lines 21-26 and 41-46. Kling further describes that monitoring power consumption of a processor is an alternative to using thermal sensors positioned in proximity to the processor. Kling describes that his power consumption monitoring system provides more accurate values and improved response over the use of thermal sensors at column 2, lines 55-62.

The power consumption measurement of Kling is representative of the thermal response of the processor because it was designed to replace a thermal sensor based control system in order to provide more accurate values and improved response over the use of thermal sensors. In addition, Kling discloses controlling power consumption in order to control the heat dissipation of the processor to avoid damage to the processor. Kling clearly discloses that the power consumption of the processor is representative of the thermal response of the processor.

Per claim 10:

Kling teaches the power controller inserting a low power operation (no-ops) to the register pipeline to stall the instructions with figure 7 and at column 8, line 50–column 9, line 7.

5. Applicant's arguments filed on February 2, 2007 have been fully considered but they are not persuasive.

In the Remarks, applicant has argued in substance that:

A. Kling just measures power consumption or other parameters related closely thereto, and does not measure, calculate or otherwise track the thermal response of the component in question. This measurement of power consumption, such as that of a processor, is distinguished from a current capacity representative of a thermal response of the processor.

6. As to point A, the examiner disagrees with applicant's contentions. Kling clearly indicates that the power consumption measurement is representative of the thermal response of the processor. Kling describes that the power consumption of a processor is limited by the thermal dissipation of the processor. As power consumption increases, the processor runs hotter and if precautions are not taken, the processor may destroy itself by its own heat at column 1, lines 21-26 and 41-46. Kling further describes that monitoring power consumption of a processor is an alternative to using thermal sensors positioned in proximity to the processor. Kling describes that his power consumption monitoring system provides more accurate values and improved response over the use of thermal sensors at column 2, lines 55-62. The power consumption measurement of Kling is representative of the thermal response of the processor because it was designed to replace a thermal sensor based control system in order to provide more accurate values and improved response over the use of thermal sensors. In addition, Kling discloses controlling power consumption in order to control the heat dissipation of

the processor to avoid damage to the processor. Kling clearly discloses that the power consumption of the processor is representative of the thermal response of the processor.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP§706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis M. Butler whose telephone number is 571-272-3663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

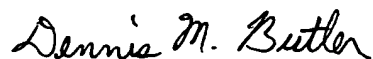
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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Dennis M. Butler
Primary Examiner
Art Unit 2115